

1. In the process of protecting foundry molds from eroding and pitting during sandcasting by preventing adherence of molding sand to mold pattern surfaces, wherein a pattern coating composition is applied to the mold pattern surfaces in an amount sufficient to form a coating thereon which prevents adherence of sand to the mold pattern, the improvement comprising coating the mold pattern surfaces with a pattern coating composition comprising vegetable oil, water, a water dispersible amine, and a clay reactive with the amine to form an organophylic clay.

2. The process of claim 1 wherein said pattern coating composition further comprises an alcohol.

3. The process of claim 1 wherein the vegetable oil is corn oil, the amine is an oil soluble, water dispersible monobasic cyclic tertiary amine and the clay reactive therewith is attapulgate.

4. The process of claim 3 wherein said pattern coating composition further comprises ethanol.

5. The process of claim 1 wherein the dispersible amine and the clay are prereacted to form the organophylic clay.

6. The process of claim 4 wherein the organophylic clay is octadecyl ammonium bentonite.

7. In the method of protecting foundry molds from eroding and pitting during sandcasting by preventing adherence of molding sand to mold pattern surfaces, wherein a pattern coating composition is applied to the mold pattern surfaces in an amount sufficient to form a

5 coating thereon which prevents adherence of sand to the mold pattern, the improvement comprising coating the mold pattern surfaces with a pattern coating composition comprising vegetable oil and a viscosity reducer selected from the group consisting of mineral seal oil, alcohol and mixtures thereof.

8. The method of claim 7 wherein said pattern coating composition comprises from about 90% to 10% vegetable oil and 10 to 90% mineral seal oil.

9. The method of claim 8 wherein said pattern coating composition comprises approximately equal parts vegetable oil and mineral seal oil.

10. The method of claim 8 further comprising alcohol.

11. The method of claim 10 wherein said alcohol is present from about 0.5 to 10% by weight of the composition.

12. The method of claim 7 wherein said viscosity reducer comprises alcohol.

13. The method of claim 12 wherein said pattern coating composition comprises from about 90% to 99.5% vegetable oil and about 0.5% to 10% alcohol.

14. The method of claim 7 wherein said vegetable oil is selected from the group consisting of corn oil, sesame oil, rapeseed oil, sunflower oil, palm oil, coconut oil, peanut oil, soybean oil, canola oil and mixture thereof.

15. The method of claim 14 wherein said vegetable oil comprises corn oil.

16. The method of claim 12 wherein said alcohol is selected from the group consisting of ethanol, propanol, butanol and combinations thereof.
17. The method of claim 16 wherein said alcohol comprises ethanol.
18. The method of claim 17 wherein said vegetable oil comprises corn oil.
19. The method of claim 7 wherein said pattern coating composition further comprises a long chain fatty acid selected from the group consisting of palmitic acid, stearic acid, myristic acid, lauric acid, oleic acid, linoleic acid, linolenic acid and mixtures thereof.
20. The method of claim 19 wherein said long chain fatty acid comprises oleic acid.
21. The method of claim 20 wherein said viscosity reducer comprises a mixture of mineral seal oil and alcohol.
22. The method of claim 21 wherein said vegetable oil and said mineral seal oil are present in said composition in approximately equal parts.
23. A method for facilitating release of molding sand from mold pattern surfaces comprising applying to the mold pattern surfaces an effective amount of a biodegradable pattern coating composition, wherein the biodegradable pattern coating composition comprises vegetable oil;
- 5 a viscosity reducer selected from the group consisting of petroleum oil and alcohol, and optionally a fatty acid.

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24. The method of claim 23 wherein said pattern coating composition has a volatile organic compound (VOC) content of less than 3.8 lbs/gal as measured by EPA method 24.

25. The method of claim 23 wherein said pattern coating composition emits less than 4.0 mg benzene per gram of the composition when tested in accordance with the AFS emission test method for release coatings.

26. The method of claim 23 wherein said pattern coating composition comprises approximately equal parts vegetable oil and petroleum oil.

27. The method of claim 26 wherein said pattern coating composition further comprises oleic acid and alcohol.

28. The method of claim 27 wherein said vegetable oil comprises corn oil and said petroleum oil comprises mineral seal oil.